## **Workshop Summary**

## Vietnam: Facilitating Development in the Coal and Power Sectors

## The 3<sup>rd</sup> APEC Coal TILF Workshop

By Charles J. Johnson

The workshop achieved an important objective to provide a forum for the exchange of technical and economic information among APEC member economies on facilitating the development of the coal and power sectors, with emphasis on issues important to Vietnam. Participating in the workshop were 31 experts from Australia, China, Indonesia, Hong Kong (China), Japan, and 102 participants and experts from the host economy, Vietnam.

The workshop opened with presentations by senior Vietnamese officials on the energy situation in Vietnam, and the outlook and challenges facing its coal and power sectors. A review was presented on improvements underway in Vietnam's legal framework for foreign investment in the coal and power sectors. Another APEC economy, Indonesia shared its experiences in developing mining contracts and fiscal terms to promote active coal developments.

Regional and global energy and environmental trends were discussed, including possible implications to Vietnam of tighter environmental standards related to coal use. Speakers believed that continued growth in coal consumption in Asia, in conjunction with tighter environmental constraints, would promote more rapid introduction of cleaner coal and clean coal technologies.

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A number of speakers discussed the technical aspects of environmental, health and safety issues associated with coal mining. A review was presented of the steps in the technical and economic evaluation of the commercial potential of coalmine methane for electricity generation. During the question and answer period a number of suggestions were made on potential sources of funding of investigations into the coal mine gas potential of Vietnam, including APEC Clean Fossil Energy Expert Group, the Asian Development Bank, World Bank and the UN Global Environmental Facility.

Speakers reviewed the status of research on clean coal products and clean coal technologies to achieve higher energy conversion efficiencies and enhanced environmental performance. Speakers agreed that Vietnam has a substantial and important energy resource in the form of anthracite, and examined specific problems in using anthracite for electricity generation. Four power plant options were suggested for Vietnam's anthracite, including: down shot fired boilers, atmospheric fluidized bed boilers, pressurized fluidized bed boilers and gasification of anthracite to produce multiple products, including chemicals in addition to electricity generation.

In the financing area, issues addressed included raising funds from equity sources, commercial and multilateral banks, and a review of criteria used by investors and lenders to major projects. A list was presented of 17 leading companies providing advice on project financing.

Finally, an analytical review was presented on the positive and negative results of electricity reforms in Australia to produce more competitive markets. Although deregulation has produced lower prices to the consumer, the complexity of the resultant changes in market behavior were not fully understood when reforms were implemented.

In conclusion, the workshop provided an excellent opportunity for participants from other APEC member economies to learn more about both the challenges and progress being made in Vietnam's coal and power sectors. The workshop provided a forum for constructive exchanges among participants from various APEC economies on their

experiences in dealing with problems of common concern to APEC coal producing and consuming economies. Many participants commented on the excellent support provided by the Vietnamese hosts in ensuring that both the workshop and technical field trips were a success.